

### ABSTRACT

The invention comprises several aspects which are each independently useful or which may be combined in a variety of combinations. One aspect of the invention is placing an atmospheric reference vent at or near the top of a rigid drip chamber for draining CSF from a patient. In the preferred embodiment, the vent is placed on the inside of the drip assembly, immediately next to the CSF. The vent, in another aspect of the invention, is made of a hydrophobic material. In the preferred embodiment, the hydrophilic material is expanded polytetrafluoroethylene (e-PTFE). In yet another aspect of the invention, the vent is made of a porous material having a pore size that allows air to readily pass through while preventing CSF from passing through. A preferred embodiment of this aspect includes making the vent of expanded polytetrafluoroethylene (e-PTFE) with a pore size ranging from about 0.22  $\mu\text{m}$  to about 5.0  $\mu\text{m}$  and more preferable a pore size of about 3  $\mu\text{m}$ . With this pore size, the vent also preferably has a surface area ranging from about 0.5  $\text{cm}^2$  to about 5.0  $\text{cm}^2$ .